Receipt date: 06/12/2008

| Under the Pap | erwork Reduction Act of 19 | 95, no persor | Uns are required to respond | Approved for use thro S. Patent and Trademark Office; U.S. E to a collection of information unless it displ | PTO/SB/08A (02-03) ugh 4/30/2003. OMB 0651-0031 DEPARTMENT OF COMMERCE ays a valid OMB control number. |
|---------------|----------------------------|---------------|-----------------------------|---|--|
| | | | | Complete i | f Known |
| Su | bstitute for form 1449/ | РТО | | Application Number | 10/574,330 |
| 1811 | CODMATION | vieci (| SCUDE | Filing Date | March 31, 2006 |
| | FORMATION D ATEMENT BY | | | First Named Inventor | Maute |
| | use as many sheets | | | Art Unit | 2856 |
| , | aco do many chock | | | Examiner Name | Fitzgerald, John P. |
| Sheet | 1 | of | 3 | Attorney Docket Number | RSE004 |

| | | | U.S. PATE | NT DOCUMENTS | |
|-----------------------|--------------|---|--------------------------------|--|---|
| Examiner Initials* | Cite No.1 | Document Number Number - Kind Code ² (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| JF/ | 1 | US-3,076,334 | 02-05-1963 | Wiley | |
| ğ | 2 | US-3,530,713 | 09-29-1970 | Nazareth, Jr. | · · · · · · · · · · · · · · · · · · · |
| 00 | 3 | US-3,999,443 | 12-28-1976 | Appel, et al. | |
| 0000 | 4 | US-RE28,989 | 10-05-1976 | Cushing | |
| 8 | 5 | US-4,228,350 | 10-14-1980 | Paap, et al. | ************************************** |
| 000 | 6 | US-4,631,969 | 12-30-1986 | Schmoock | *************************************** |
| 000 | 7 | US-4,704,907 | 11-10-1987 | Mannherz et al. | *************************************** |
| 000 | 8 | US-4,938,073 | 07-03-1990 | Stephenson | |
| 000 | 9 | US-4,953,408 | 09-04-1990 | Appel, et al. | |
| 900 | 10 | US-4,969,363 | 11-13-1990 | Mochizuki | |
| 8 | 11 | US-5,251,479 | 10-12-1993 | Siegfried, II, et al. | |
| 8 | 12 | US-5,297,425 | 03-29-1994 | Hamby, et al. | |
| 000 | 13 | US-5,388,455 | 02-14-1995 | Hamby, et al. | |
| 9 | 14 | US-5,448,920 | 09-12-1995 | Ketelsen, e <i>t al</i> . | |
| 8 | 15 | US-5,551,287 | 09-03-1996 | Maute, et al. | • |
| 8 | 16 | US-6,173,793 B1 | 01-16-2001 | Thompson, et al. | |
| 000 | 17 | US-6,237,424 B1 | 05-29-2001 | Salmasi, <i>et al.</i> | |
| 900 | 18 | US-6,431,011 B1 | 08-13-2002 | Feller | |
| 9 | 19 | US-6,453,754 B1 | 09-24-2002 | Florin | |
| | 20 | US-6,711,947 B2 | 03-30-2004 | Maute | |
| W | 21 | US-6,779,407 B2 | 08-24-2004 | Maute | |
| /JF/ | 22 | US-6,971,271 B2 | 12-06-2005 | Maute | |

| FOREIGN PATENT DOCUMENTS | | | | | | | | | |
|--------------------------|--------------|---|--------------------------------|--|--|----------------|--|--|--|
| Examiner Initials* | Cite No.1 | Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (<i>if known</i>) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ^e | | | |
| /JF/ | 23 | GB- 811 347 A | 04-02-1959 | Philips Electrical Ind Ltd | | | | | |
| 50 | 24 | GB- 2 064 130 A | 06-10-1981 | Hemp, J. | * - 18 2 * (111110) - 111111111111111111111111111111 | | | | |
| | 25 | JP 58-17318 | 02-01-1983 | Hokushin Electric Works | COLUMN SE PERM PORTOGRAFIA PERM A PROPERTOR DE LA COLUMN SE PERM A PE | | | | |
| | 26 | WO 01/11190 A1 | 02-15-2001 | Schlumberger Technology B.V., et al. | A COMMISSION OF THE STATE OF TH | | | | |
| W | 27 | WO 02/101194 A1 | 12-19-2002 | REM Scientific Enterprises, Inc. | ************************************** | | | | |
| /JF/ | 28 | GB 2 405 214 A | 02-23-2005 | Schlumberger Holdings Limited | 100000000000000000000000000000000000000 | Τ | | | |

| Examiner | /John Fitzgerald/ | Date | 09/22/2008 |
|-----------|-------------------|------------|------------|
| Signature | 700777 Regordes | Considered | 09/22/2000 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ¹For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁵Applicant is to place a check mark here if English language Translation is attached.

tanguage Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Receipt date: 06/12/2008

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

| Substitute t | or form 1449 | B/PTO | - | Complete | if Known |
|--------------|--------------|--------------|---------|------------------------|---------------------|
| | | | | Application Number | 10/574,330 |
| INF | ORMATIO | N DISCL | OSURE | Filing Date | March 31, 2006 |
| STA | TEMENT | BY APP | LICANT | First Named Inventor | Maute |
| (u: | se as many s | heets as nec | essary) | Group Art Unit | 2856 |
| | | | | Examiner Name | Fitzgerald, John P. |
| Sheet | 2 | of | 3 | Attorney Docket Number | RSE004 |

| | | OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS | | | | |
|---|----|--|--|--|--|--|
| Examiner Cite Initials* No. | | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | | |
| /JF/ ²⁹ | | MAUTE, R.E., "A Guide to Diagnosing Your Wells: Production Logging," Probe Technology Services, Inc., 2000, 9 pages. | | | | |
| | 30 | HILL, A.D., et al., "Production Logging Tool Behavior in Two-Phase Inclined Flow," 56 th Annual Fall Technical Conference and Exhibition of the Society of Petroleum Engineers of AIME, San Antonio, TX, Oct. 5-7, 1981, 13 pages. | | | | |
| | 31 | BRANAGAN, P., et al., "Tests Show Production Logging Problems in Horizontal Gas Wells," Oil & Gas Journal, Jan. 10, 1994, pp. 41-45. | | | | |
| | 32 | KELMAN, J.S., "Biphasic Fluid Studies for Production Logging in Large-Diameter Deviated Walls [sic]," The Log Analyst, Nov. – Dec. 1993, pp. 6-10. | | | | |
| 000000000000000000000000000000000000000 | 33 | DING, Z.X., et al., "A Comparison of Predictive Oil/Water Holdup Models for Production Log Interpretation in Vertical and Deviated Wellbores," SPWLA 35 th Annual Logging Symposium, June 19-22, 1994, pp. 1-18. | | | | |
| | 34 | NICE, S.B., "Production Logging in Horizontal Wellbores," 5 th World Oil et al. Horizontal Well Technology Int. Conference (Houston) Proc., sect 11, Nov. 1993, 7 pages. | | | | |
| 000 | 35 | ZHU, D., et al., "The Effect of Flow from Perforations on Two-Phase Flow: Implications for Production Logging," 63 rd Annual Technical Conference and Exhibition of the Society of Petroleum Engineers, Houston, TX, Oct. 2-5, 1988, pp. 267-275. | | | | |
| 00000000000 | 36 | MOLZ, F.J., et al, "Development and Application of Borehole Flowmeters for Environmental Assessment," The Log Analyst, JanFeb. 1993, pp. 13-23. | | | | |
| 000000000000000000000000000000000000000 | 37 | ROSS, G., "The Electromagnetic Flowmeter as Applied to the Measurement of Blood Flow in Living Systems," Symposium on Flow: Its Measurement and Control in Science and Industry, Vol. 1, Pittsburgh, PA, 1971, pp. 1337-1345. | | | | |
| V | 38 | CUSHING, V.J., "Electromagnetic Water Current Meter," Water Resources Instrumentation, Vol. 1 Measuring and Sensing Methods, Proceedings of the International Seminar and Exposition on Water Resources Instrumentation, June 4-6, 1974, Chicago, IL, pp. 35-55. | | | | |
| /JF/ | 39 | RAZI, M., et al., "Characterizing Flow through a Perforation Using Ultrasonic Doppler," Production Operations Symposium, Oklahoma City, OK, Apr. 2-4, 1995, pp. 943-953. | | | | |

| Examiner | /John Fitzgerald/ | Date | 09/22/2008 |
|-----------|-------------------|------------|------------|
| Signature | , som rugora.e. | Considered | 09/22/2008 |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated tot ake 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Receipt date: 06/12/2008

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| Substitu | ite for form 1449 | B/PTO | | Complete | Complete if Known | | |
|----------|-------------------|----------------|---------|------------------------|---------------------|--|--|
| | | | | Application Number | 10/574,330 | | |
| 11 | NFORMATIO | N DISCLO | DSURE | Filing Date | March 31, 2006 | | |
| S | TATEMENT | BY APPL | .ICANT | First Named Inventor | Maute | | |
| | (use as many s | heets as nece | essary) | Group Art Unit | 2856 | | |
| | | | | Examiner Name | Fitzgerald, John P. | | |
| Sheet | 3 | of | 3 | Attorney Docket Number | RSE004 | | |

| | | OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS | |
|---|--------------|---|---|
| Examiner Initials* | Cite, No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| /JF/ | 40 | BAKER, R.C., "A Review of Some Applications of Electromagnetic Flow Measurement," Symposium on Flow: Its Measurement and Control in Science and Industry, Vol. 1, Part 2, Flow Measuring Devices, 1971, pp. 745-753. | |
| 900000000000000000000000000000000000000 | 41 | FLOOD, J. "Single-Sensor Measurement of Flow in Filled or Partially Filled Process Pipes," Sensors Magazine, September 1997, 4 pages. | |
| 2000 | 42 | DONEY, B., "EMF Flow Measurement in Partially Filled Pipes," Sensors, October 1999, pp. 65-66 & 68. | |
| ************************************** | 43 | MAUTE, B., "Practical Interpretation of Production Logs," Version 9.0, Customized for the China National Oil and Gas Exploration & Development Corporation, Earth Resource and Environment Center, The University of Texas at Arlington, Dec. 17-19, 1997, pp. 1-160. | |
| 200000000000000000000000000000000000000 | 44 | International Search Report for Corresponding International Application No. PCT/US 02/16895, dated September 24, 2002. | *************************************** |
| 900000000000000000000000000000000000000 | 45 | KOLIN, A., "Electromagnetic Velometry. I. A Method for the Determination of Fluid Velocity Distribution in Space and Time," Journal of Applied Physics, Vol. 15, February 1944, pp. 150-164. | TT - TT |
| 000000000000000000000000000000000000000 | 46 | KLIMAN, G.B., "Calibration of an Electromagnetic Velocity Probe for Electrically Conducting Liquids," The Review of Scientific Instruments, No. 6, Vol. 33, June 1962, pp. 684-685. | |
| V | 47 | KOLIN, A., et al., "Electromagnetic Velometry. II. Elimination of the Effects of Induced Currents in Explorations of the Velocity Distribution in Axially Symmetrical Flow," Journal of Applied Physics, Vol. 25, No. 4, April 1954, pp. 409-413. | - |
| /JF/ | 48 | UK International Search and Examination Report for corresponding Application No. GB0605456.3. | - |
| | | | |
| | | | ···· |
| | <u> </u> | | 1 |

| - | | | | |
|-------------|-------------------|---|----------------|------------|
| Examiner | /John Fitzgerald/ | • | Date | 00/00/0000 |
| Signature | | | | 09/22/2008 |
| - Oignatare | L | | l Considered l | |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement. This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated tot ake 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depnding upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.